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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/475,186	12/30/1999	BYUNG KEUN LIM	K-133	6047

7590

10/23/2002

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EXAMINER

LELE, TANMAY S

ART UNIT

PAPER NUMBER

2681

DATE MAILED: 10/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/475,186

Applicant(s)

LIM ET AL.

Examiner

Tanmay S Lele

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: VLR and MSC (on pg 8). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "RCN 33" (on page 12). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: BS1 – BS3 (numbers 21 – 23, respectively). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claim 4 is objected to because of the following informalities: grammar in line 4, "wherein said packet control function entity is provided said mobile switching center and visitor location register." For purposes of examining it was assumed that this read as, "wherein said

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packet control function entity is provided to said mobile switching center and visitor location register.” Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 12, it is not understood how the radio network controller is in a dormant state. For purposes of examining, it was assumed that the mobile device was the one in dormant state. Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallentin et al. (Wallentin, US Patent No. 6,292,667) in view of Wright et al. (Wright, US Patent NO. 6,240,083).

Regarding claim 1, Wallentin teaches of a system for controlling a packet data service in a mobile communication network, comprising a plurality of radio network controllers, wherein each of said radio network controllers assigns a radio channel to a packet data service active

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terminal and controls a data service path for said active terminal (as seen in Figure 1; column 6, lines 14 – 22; and column 2, lines 11 - 14) and a location management unit that manages service state information, location information and connection information of said active terminal (column 4, lines 45 – 53 and column 6, lines 55 – 65), wherein, when said active terminal moves from a first one of said radio network controllers to a second one of said radio network controllers in a suspended state or a dormant state, information(s) of said active terminal are maintained between said first and second radio network controllers under control of said location management unit (column 6, lines 55 – 63 and in column 10, lines 40 -45).

Wallentin does not specifically teach of the radio network controllers assigning a radio channel to a packet data service active terminal and of while in a suspended or a dormant state, medium access control layer state information and radio resource control information of said active terminal are maintained.

In a related art dealing with accessing a network, Wright teaches of the radio network controllers assigning a radio channel to a packet data service active terminal (column 4, lines 57 – 61 and column 9 lines 36 – 46) and of while in a suspended or a dormant state, medium access control layer state information and radio resource control information of said active terminal are maintained (column 6, lines 34 – 50 and column 28, lines 5 – 8).

It would have been obvious to one skilled in the art at the time of invention to have included into Wallentin's system of mobile communications, Wright's concepts of channel accessing, for the purposes of efficiently reserving the channel thus prevent collision of messages between devices, as taught by Wright.

Regarding claim 2, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 1. Wallentin further teaches of further comprising a packet data node for maintaining a point-to-point protocol link with said active terminal through a serving one of said radio network controllers to process one of an incoming signal from said active terminal and an outgoing signal to said active terminal (column 13, lines 40 – 48).

Regarding claim 3, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 2. Wallentin further teaches that the said second radio network controller is adapted to receive packet data node routing information from said first radio network controller and transfer a node link message to said packet data node to notify the packet data node that said active terminal has moved to said second radio network controller (column 4, lines 53 – 58).

Regarding claim 4, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 1. Wallentin further teaches that further comprising a mobile switching center and a visitor location register, wherein said location management is provided in said mobile switching center and visitor location register column 11, lines 4 – 21).

Regarding claim 5, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 4. Wallentin teaches of a packet control function entity adapted to establish a virtual circuit between a serving one of said radio network controllers and one of a target one of said radio network controllers (seen in Figure 1 and detailed starting column 6 line 55 and ending column 7 line 8), wherein said packet control function entity is provided said mobile switching center and visitor location register (column 13, lines 13 – 21 and lines 40 – 48). Wright further teaches and a packet data node (column 9, lines 36 – 46).

Regarding claim 6, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 1. Wallentin further teaches that wherein said suspended state is a state where a traffic channel, a power control channel and a radio resource control channel are released between said active terminal and a serving one of said radio network controllers, and wherein a radio link protocol state and a point-to-point protocol state are maintained between said active terminal and said serving radio network controller (column 2, lines 1 –7) and wherein said dormant state is a state where a radio connection is released between said active terminal and said serving radio network controller and only said point-to-point protocol state is maintained between said active terminal and a packet data node (column 13, lines 40 – 48).

Regarding claim 7, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 1. Though Wallentin in view of Wright do not specifically teach that wherein said mobile communication network is an IMT-2000/PCS/cellular communication network, it is well known in the art that IMT-2000 is in fact third generation-packet switched network and therefore commonly used as 3G rolls out and thus Examiner takes “Official Notice” of such. It therefore it would have been obvious to one skilled in the art at the time of invention to have used the invention in a IMT-2000 network, as this network will be a packet switched network (by definition).

Regarding claim 8, Wallentin teaches of a radio communication network that includes a plurality of radio network controllers (seen in Figure 1), a method for operating a mobile communication network, comprising moving a packet data service active terminal from an old one of said radio network controllers to a new one of said radio network controllers in at least one of a suspended state and a dormant state (column 10, lines 40 – 45), transferring information

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and radio resource control information of said active terminal from said old radio network controller to said new radio network controller through a location management function entity (column 6, lines 55 - 65), and maintaining said information and radio resource control information of said active terminal between said old and new radio network controllers (column 6, lines 55 - 65).

Wallentin does not teach of the medium access control (MAC) layer, specifically of a suspended medium access control (MAC) layer state and a dormant MAC layer state, transferring MAC layer state information and maintaining said MAC layer state information.

In a related art dealing with accessing a network, Wright teaches of suspended medium access control (MAC) layer state and a dormant MAC layer state, transferring MAC layer state information and maintaining said MAC layer state information (starting column 28, line 5 and ending column 30, line 65).

It would have been obvious to one skilled in the art at the time of invention to have included into Wallentin's system of mobile communications, Wright's concepts of channel accessing, for the purposes of efficiently reserving the channel thus prevent collision of messages between devices, as taught by Wright.

Regarding claim 9, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 8. Wallentin further teaches that the location management device is in a mobile switching center and provides radio packet data service (column 11, lines 15 -25).

Regarding claim 10, Wallentin teaches of a method for controlling a packet data service in a mobile communication network of a radio communication network that includes a plurality of radio network controllers, at least one location management function device to provide a radio

packet data service, (seen in Figure 1 and detailed in column 4, lines 45 – 53) the method comprising the steps of allowing a packet data service active terminal to move from a current one of said radio network controllers to a target one of said radio network controllers (seen in Figure 1, column 4, lines 45-52), allowing said active terminal to detect a received pilot signal and check a system overhead message (column 9, lines 62 – 64; note a paging message is a system overhead message), and allowing said active terminal to determine whether to perform a handoff operation at a suspended state (column 6, lines 55 – 63 and column 10, lines 40 - 45).

Wallentin does not specifically teach of a packet data node allowing a packet data service active terminal to move from a current one of said radio network controllers to a target one of said radio network controllers under the condition that only a point-to-point protocol state is maintained between said active terminal and said packet data node and allowing said active terminal to request said current radio network controller to permit its change to one of a dormant state and an active state when the determination is that said active terminal is to perform the handoff operation in said suspended state.

In a related art dealing with accessing a network, Wright teaches of a packet data node allowing a packet data service active terminal to move from a current one of said radio network controllers to a target one of said radio network controllers under the condition that only a point-to-point protocol state is maintained between said active terminal and said packet data node (column 9, lines 36 – 46) and allowing said active terminal to request said current radio network controller to permit its change to one of a dormant state and an active state when the determination is that said active terminal is to perform the handoff operation in said suspended state (starting column 28, line 5 and ending column 30, line 65).

It would have been obvious to one skilled in the art at the time of invention to have included into Wallentin's system of mobile communications, Wright's concepts of channel accessing, for the purposes of efficiently reserving the channel thus prevent collision of messages between devices, as taught by Wright.

Regarding claim 11, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 10. Wright further teaches the step of allowing said current radio network controller to transfer radio link protocol state information and radio resource control information of said active terminal to said target radio network controller under control of said location management function entity if said active terminal is changed to said dormant state (column 28, lines 11 – 38).

Regarding claim 12, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 10. Wallentin further teaches that the current radio network controller is changed to said dormant state, the method further comprises the step of allowing said location management function entity to transfer an overhead message to said target radio network controller to notify the target radio network controller that an inter radio network controller handoff operation is executed (column 9, lines 62 – 64 and column 10, lines 40 – 45).

Regarding claim 13, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 12. Wright further teaches that said active terminal is not to perform the handoff operation in said suspended state (column 27, lines 58 -62), the method further comprises the step of allowing said current radio network controller to detect a location of said active terminal and prevent the change to said dormant state (column 9, lines 44 –64).

Regarding claim 14, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 10. Wallentin further teaches that the location management function device is in a mobile switching center (column 11, lines 15 – 17).

Regarding claim 15, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 10. Though Wallentin in view of Wright do not specifically teach that wherein said mobile communication network is an IMT-2000/PCS/cellular communication network, it is well known in the art that IMT-2000 is in fact third generation-packet switched network and therefore commonly used as 3G rolls out and thus Examiner takes “Official Notice” of such. It therefore it would have been obvious to one skilled in the art at the time of invention to have used the invention in a IMT-2000 network, as this network will be a packet switched network (by definition).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanmay S Lele whose telephone number is (703) 305-3462. The examiner can normally be reached on 9 - 6:30 PM Monday – Thursdays and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Dwayne Bost can be reached on (703) 305-4778. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

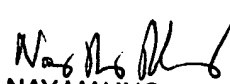
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Tanmay S Lele
Examiner
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tsl
October 15, 2002


NAY MAUNG
PRIMARY EXAMINER